UNITED STATES PATENT AND TRADEMARK OFFICE

UNITED STATES DEPARTMENT OF COMMERCE
United States Patent and Trademark Office
Address: COMMISSIONER FOR PATENTS
P.O. Box 1450
Alexandria, Virginia 22313-1450
www.uspto.gov

APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/560,701	05/22/2006	**Ronald P. Binstead**	2932-A-7	1949

26740 7590 12/28/2009

The von HELLENS LAW FIRM, LTD.
C. Robert von Hellens
7330 N 16TH STREET
SUITE C 201
PHOENIX, AZ 85020

EXAMINER	
LAM, VINH TANG	

ART UNIT	PAPER NUMBER
2629	

NOTIFICATION DATE	DELIVERY MODE
12/28/2009	ELECTRONIC

Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

Notice of the Office communication was sent electronically on above-indicated "Notification Date" to the following e-mail address(es):

robert@vonhellenslaw.com
cathy@vonhellenslaw.com

Office Action Summary	Application No.	Applicant(s)	
	10/560,701	BINSTEAD, RONALD P.	
	Examiner	Art Unit	
	VINH T. LAM	2629	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE *3* MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

1)☒ Responsive to communication(s) filed on *22 July 2009*.

2a)☐ This action is **FINAL**. 2b)☒ This action is non-final.

3)☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

4)☒ Claim(s) *1-45* is/are pending in the application.

4a) Of the above claim(s) *2 and 3* is/are withdrawn from consideration.

5)☐ Claim(s) _____ is/are allowed.

6)☒ Claim(s) *1 & 4-45* is/are rejected.

7)☐ Claim(s) _____ is/are objected to.

8)☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

9)☐ The specification is objected to by the Examiner.

10)☒ The drawing(s) filed on *30 January 2009* is/are: a)☒ accepted or b)☐ objected to by the Examiner.

Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).

11)☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

12)☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

a)☒ All b)☐ Some * c)☐ None of:

1.☒ Certified copies of the priority documents have been received.

2.☐ Certified copies of the priority documents have been received in Application No. _____.

3.☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

1) ☒ Notice of References Cited (PTO-892)
2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
3) ☐ Information Disclosure Statement(s) (PTO/SB/08) Paper No(s)/Mail Date _____.
4) ☐ Interview Summary (PTO-413) Paper No(s)/Mail Date. _____ .
5) ☐ Notice of Informal Patent Application
6) ☐ Other: _____.

DETAILED ACTION

Claim Rejections - 35 USC § 103

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

> (a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negatived by the manner in which the invention was made.

1. Claims **1**, **4-6**, **8-12**, **14**, **20**, **39-40**, and **45** are rejected under 35 U.S.C. 103(a) as being unpatentable over **Yoshikawa et al. (US Patent Application Publication 2003/0231170, hereinafter Yoshikawa et al.)** in view of **Takala et al. (US Patent 6788294, hereinafter Takala et al.).**

Regarding Claim **1**, (Previously Presented) **Yoshikawa et al.** teach a touchpad comprising

a supporting medium (i.e. *an insulating sheet **8***; [**0054**], Fig. **1**) supporting a plurality of spaced apart conductors (i.e. *column electrodes 6 or the row electrodes 7*; Col. **3** [**0051**], FIG. **1**) in which there is no electrical contact between the conductors (i.e. *inherent because of an insulating sheet **8***; [**0054**], Fig. **1**),

each conductor being sensitive to the proximity of a finger (i.e. *stylus pen **9***; [**0051**], FIG. **1**) to modify the capacitance of said conductor to detect the presence of said finger positioned close to that conductor ([**0079**], Fig. **1**),

the touchpad further comprising medium (i.e. *transparent **hard coating***; [**0052**]) proximal to said conductors (i.e. *column electrodes 6 or the row electrodes 7*; [**0051**],

FIG. **1**) to concentrate electric field (i.e. ***voltage pulse***; [**0051**], [**0056**], [**0068**]) between conductors towards the plane of the supporting medium and adapted to locally modify the capacitive environment (i.e. to induce ***sufficient capacitance;*** [**0068**], [**0069**], Fig. **1**) between a subset of the conductors (i.e. *column electrodes* ***6*** *or the row electrodes* ***7***; [**0068**], [**0069**], FIG. **1**) without distortion (i.e. *obvious because of the hard coating*; [**0052**]) of the medium.

However, **Yoshikawa et al.** do not explicitly teach that the medium being electrically conductive.

In the same field of endeavor, **Takala et al.** teach that that the medium being electrically conductive (layer **16**, Col. **3**, Ln. **60-61**, Col. **4**, Ln. **5-9**).

It would have been obvious to a person having ordinary skill in the art at the time the invention was made to combine **Yoshikawa et al.** teaching of touchpad structure with **Takala et al.** teaching of an electrically conductive medium *in order to benefit of* improving the accuracy of touch detection by having a touchpad structures comprising an electrically conductive medium.

Regarding Claim **4**, (Previously Presented) the touchpad as claimed in claim 1, wherein **Takala et al.** teach that the electrically conductive medium means is adapted to accentuate the variation in capacitance of a conductor and to control the dispersion of a resulting capacitive signal propagating from substantially the proximity of said finger (Col. **4**, Ln. **21**-**30**, FIG. **1**) .

Regarding Claim **5**, (Previously Presented) the touchpad as claimed in claim 1, wherein **Yoshikawa et al.** teach the supporting medium is electrically insulating (i.e. *an insulating sheet **8***; [**0054**], Fig. **1**).

Regarding Claim **6**, (Previously Presented) the touchpad as claimed in claim 1, wherein **Takala et al.** teach the conductive medium is in the form of a conductive layer (layer **16**, Col. **3**, Ln. **60-61**, Col. **4,** Ln. **5-9**) covering at least a portion of the supporting medium (layer **13**, Col. **5**, Ln. **66-68**, Col. **6,** Ln. **1-12**).

Regarding Claim **8**, (Previously Presented) the touchpad as claimed in claim 6, wherein **Yoshikawa et al.** teach the conductive layer is supported by a first surface of the supporting medium or a first surface of a dielectric medium ([**0056**], Fig. **1**).

Regarding Claim **9**, (Original) the touchpad as claimed in claim 8, wherein **Yoshikawa et al.** teach the dielectric medium has a thickness which is relatively large as compared to the thickness of the conductive layer (Fig. **1**).

Regarding Claim **10**, (Previously Presented) the touchpad as claimed in claim 6, **Yoshikawa et al.** further teach a non-conductive layer proximate to the conductive layer ([**0052**], Fig. **1**).

Regarding Claim **11**, (Previously Presented) the touchpad as claimed in claim 8, wherein **Yoshikawa et al.** teach the supporting medium and conductive layer are separated by the dielectric medium ([**0053**], [**0056**], Fig. **1**).

Regarding Claim **12**, (Previously Presented) the touchpad as claimed in claim 8, wherein **Yoshikawa et al.** teach the conductive layer is sandwiched between the supporting medium and the dielectric medium ([**0053**], [**0056**], Fig. **1**).

Regarding Claim **14**, (Previously Presented) the touchpad as claimed in claim 8, **Yoshikawa et al.** further teach a conductive layer proximate to the dielectric medium and sandwiching the dielectric medium between the further conductive layer and the conductive layer ([**0054**], Fig. **1**).

Regarding Claim **20**, (Original) the touchpad as claimed in claim 14, wherein **Yoshikawa et al.** further teach the conductive layer is supported by a second surface of the dielectric medium, the second surface in substantially opposed relation to the first surface of the dielectric medium (**[0056]**, Fig. **1**).

Regarding Claim **39**, (Previously Presented) the touchpad as claimed in claim 1, wherein **Yoshikawa et al.** teach the touchpad is resilient ([**0054**], Fig. **1**).

Regarding Claim **40**, (Previously Presented) the touchpad as claimed in claim 1, wherein **Yoshikawa et al.** teach the touchpad is deformable ([**0054**], Fig. **1**).

Regarding Claim **45**, (Original) **Yoshikawa et al.** teach the touchpad as claimed in claim 1 wherein the plurality of conductors comprises a first series of spaced-apart conductors and a second series of spaced apart conductors disposed in intersecting relation ([**0053**], [**0055**], Fig. **1**).

2. Claims **7**, **13**, **16**-**19**, **21**-**27**, and **38** are rejected under 35 U.S.C. 103(a) as being unpatentable over **Yoshikawa et al.** in view of **Takala et al.** and further in view of **Vranish (US Patent Application Publication 2002/0000977, hereinafter Vranish).**

Regarding Claim **7**, (Original) **Yoshikawa et al.** and **Takala et al.** teach the touchpad as claimed in claim 6.

However, **Yoshikawa et al.** and **Takala et al.** do not teach that the conductive layer is discontinuous ([**0031**], Fig. **3**).

In the same field of endeavor, **Vranish** teaches the conductive layer is discontinuous.

It would have been obvious to a person having ordinary skill in the art at the time the invention was made to combine **Yoshikawa et al.** and **Takala et al et al.** teaching of touchpad structures with **Vranish** teaching of the conductive layer is discontinuous in order to benefit of improving accuracy of a pointing object detection by having touchpad structures wherein the conductive layer is discontinuous.

Regarding Claim **13**, (Previously Presented) **Yoshikawa et al.** and **Takala et al.** teach the touchpad as claimed in claim 8.

However, **Yoshikawa et al.** and **Takala et al.** do not teach the supporting medium is sandwiched between the conductive layer and the dielectric medium.

In the same field of endeavor, **Vranish** teaches the supporting medium is sandwiched between the conductive layer and the dielectric medium ([**0032**], Fig. **4**).

It would have been obvious to a person having ordinary skill in the art at the time the invention was made to combine **Yoshikawa et al.** and **Takala et al et al.** teaching

of touchpad structures with **Vranish** teaching of the supporting medium is sandwiched between the conductive layer and the dielectric medium in order to benefit of an alternative design and manufacturing of a touchpad.

Regarding Claim **16**, (Currently Amended) **Yoshikawa et al.** and **Takala et al.** teach the touchpad as claimed in Claim 1.

However, **Yoshikawa et al.** and **Takala et al.** do not teach the conductive medium electrically floats or is grounded to earth.

In the same field of endeavor, **Vranish** teaches the conductive medium electrically floats or is grounded to earth (**[0031]**, Fig. **3**).

It would have been obvious to a person having ordinary skill in the art at the time the invention was made to combine **Yoshikawa et al.** and **Takala et al et al.** teaching of touchpad structures with **Vranish** teaching of the conductive medium electrically floats or is grounded to earth *in order to benefit of* reducing background noise and electromagnetic interference by having the touchpad structures wherein the conductive medium electrically floats or is grounded to earth.

Regarding Claim **17**, (Original) **Vranish** teaches a touchpad as claimed in claim 16, wherein the conductive medium is grounded by a wire or resistor ([**0031**], Fig. **3**).

Regarding Claim **18**, (Original) **Yoshikawa et al.** and **Takala et al.** teach the touchpad as claimed in claim 6.

However, **Yoshikawa et al.** and **Takala et al.** do not teach the conductive layer comprises a plurality of electrically isolated conductive regions separated by regions of the first surface of the supporting medium or first surface of the dielectric medium.

In the same field of endeavor, **Vranish** teaches the conductive layer comprises a plurality of electrically isolated conductive regions separated by regions of the first surface of the supporting medium or first surface of the dielectric medium ([**0031**], Figs. **2** & **3**).

It would have been obvious to a person having ordinary skill in the art at the time the invention was made to combine **Yoshikawa et al.** and **Takala et al et al.** teaching of touchpad structures with **Vranish** teaching of a touchpad structures, wherein the conductive medium is grounded by a wire or resistor in order to the benefit of applying the technology not only to a touchpad but also to a keypad by having a touchpad structures wherein the conductive medium is grounded by a wire or resistor in order to the benefit of applying the technology not only to a touchpad but also to a keypad.

Regarding Claim **19**, (Original) the touchpad as claimed in claim 18, wherein **Vranish** teaches the separations between the conductive regions are relatively small compared to the width of the conductive regions, so as to allow capacitive coupling of adjacent regions via the supporting medium or the dielectric medium ([**0031**], Figs. **2** & **3**).

Regarding Claim **21**, (Original) **Yoshikawa et al.** and **Takala et al.** teach the touchpad as claimed in claim 20.

However, **Yoshikawa et al.** and **Takala et al.** do not teach the conductive layer further comprises a plurality of electrically isolated conductive regions separated by regions of the second surface of the dielectric medium.

In the same field of endeavor, **Vranish** teaches the conductive layer further comprises a plurality of electrically isolated conductive regions separated by regions of the second surface of the dielectric medium ([**0031**], Figs. **2** & **3**).

It would have been obvious to a person having ordinary skill in the art at the time the invention was made to combine **Yoshikawa et al.** and **Takala et al et al.** teaching of touchpad structures with **Vranish** teaching of the conductive layer further comprises a plurality of electrically isolated conductive regions separated by regions of the second surface of the dielectric medium *in order to benefit of* correspondingly adapting to the keypad design by having the touchpad structures wherein the conductive layer further comprises a plurality of electrically isolated conductive regions separated by regions of the second surface of the dielectric medium.

Regarding Claim **22**, (Original) the touchpad as claimed in claim 21, wherein **Vranish** teaches the conductive regions on the first surface of the dielectric and the conductive regions on the second surface of the dielectric are registered to each other by virtue of corresponding substantially coterminous areas ([**0031**], Figs. **2** & **3**).

Regarding Claim **23**, (Original) the touchpad as claimed in claim 21, wherein the conductive regions on the first surface of the dielectric and the conductive regions on the second surface of the dielectric are registered to each other by virtue of

corresponding overlapping non-coterminous areas which is an obvious Design Choice disclosed by applicant's disclosure ([**0094**], [**0095**]).

Regarding Claim **24**, (Previously Presented) the touchpad as claimed in claim 22, wherein **Vranish** teaches the registered regions are capacitively coupled via the dielectric medium ([**0045**], Table **1**).

Regarding Claim **25**, (Previously Presented) the touchpad as claimed in claim 18, wherein **Vranish** teaches the conductive regions are substantially rectangular (Fig. **2**).

Regarding Claim **26**, (Original) **Yoshikawa et al.** and **Takala et al.** teach the touchpad as claimed in claim 8.

However, **Yoshikawa et al.** and **Takala et al.** do not teach the conductive layer comprises a plurality of electrically isolated conductive regions separated by regions of the first surface of the supporting medium or the first surface of the dielectric medium, each conductive region linked by one or more conductive bridges to adjacent conductive regions, the bridges having a width substantially smaller than the width of the conductive regions.

In the same field of endeavor, **Vranish** teaches the conductive layer comprises a plurality of electrically isolated conductive regions separated by regions of the first surface of the supporting medium or the first surface of the dielectric medium, each conductive region linked by one or more conductive bridges to adjacent conductive regions, the bridges having a width substantially smaller than the width of the conductive regions ([**0047**], Fig. **6**).

It would have been obvious to a person having ordinary skill in the art at the time the invention was made to combine **Yoshikawa et al.** and **Takala et al et al.** teaching of touchpad structures with **Vranish** teaching of the conductive layer comprises a plurality of electrically isolated conductive regions separated by regions of the first surface of the supporting medium or the first surface of the dielectric medium, each conductive region linked by one or more conductive bridges to adjacent conductive regions, the bridges having a width substantially smaller than the width of the conductive regions *in order to benefit of* adjusting the resistivity to a desired specification by having a touchpad structures wherein the conductive layer comprises a plurality of electrically isolated conductive regions separated by regions of the first surface of the supporting medium or the first surface of the dielectric medium, each conductive region linked by one or more conductive bridges to adjacent conductive regions, the bridges having a width substantially smaller than the width of the conductive regions.

Regarding Claim **27**, (Original) the touchpad as claimed in claim 26, wherein **Vranish** teaches the conductive regions have a relatively large thickness and the conductive bridges have a relatively small thickness to increase the resistance in the conductive layer ([**0047**], Fig. **6**).

Regarding Claim **38**, (Previously Presented) **Yoshikawa et al.** and **Takala et al.** teach the touchpad as claimed in claim 1.

However, **Yoshikawa et al.** and **Takala et al.** do not teach the touchpad is arranged into a non-planar configuration.

In the same field of endeavor, **Vranish** teaches the touchpad is arranged into a non-planar configuration (Fig. **4**).

It would have been obvious to a person having ordinary skill in the art at the time the invention was made to combine **Yoshikawa et al.** and **Takala et al et al.** teaching of touchpad structures with **Vranish** teaching of the touchpad is arranged into a non-planar configuration *in order to benefit of* applying the technology not only to a touchpad but also to other input devices.

3. Claims **15**, **28**-**37**, and **41** are rejected under 35 U.S.C. 103(a) as being unpatentable over **Yoshikawa et al.** in view of **Takala et al.** and further in view of **Tanaka et al. (US Patent Application Publication 2004/0017364, hereinafter Tanaka et al.).**

Regarding Claim **15**, (Previously Presented) **Yoshikawa et al.** and **Takala et al.** teach the touchpad as claimed in claim 1.

However, **Yoshikawa et al.** and **Takala et al.** do not teach the conductive medium has a resistivity in the range of 100 ohms per square to 10,000,000 ohms per square.

In the same field of endeavor, **Tanaka et al.** teach the conductive medium has a resistivity in the range of 100 ohms per square to 10,000,000 ohms per square ([**0320**]).

It would have been obvious to a person having ordinary skill in the art at the time the invention was made to combine **Yoshikawa et al.** and **Takala et al et al.** teaching of touchpad structures with **Tanaka et al.** teaching of the conductive medium has a

resistivity in the range of 100 ohms per square to 10,000,000 ohms per square in order to benefit of improving accuracy of a pointing object detection by having touchpad structures wherein the conductive medium has a resistivity in the range of 100 ohms per square to 10,000,000 ohms per square.

Regarding Claim **28**, (Previously Presented) **Yoshikawa et al.** and **Takala et al.** teach the touchpad as claimed in claim 1.

However, **Yoshikawa et al.** and **Takala et al.** do not teach the supporting medium and conductive medium are formed as a single conductive support and sensing layer.

In the same field of endeavor, **Tanaka et al.** teach the supporting medium and conductive medium are formed as a single conductive support and sensing layer ([**0318**]).

It would have been obvious to a person having ordinary skill in the art at the time the invention was made to combine **Yoshikawa et al.** and **Takala et al et al.** teaching of touchpad structures with **Tanaka et al.** teaching of the supporting medium and conductive medium are formed as a single conductive support and sensing layer *in order to benefit of* reducing parts and manufacturing process by having a touchpad structures wherein the supporting medium and conductive medium are formed as a single conductive support and sensing layer.

Regarding Claim **29**, (Original) the touchpad as claimed in claim 28, wherein **Tanaka et al.** teach the single conductive support and sensing layer is formed from a bulk doped medium having a bulk conductivity ([**0318**]).

Regarding Claim **30**, (Original) the touchpad as claimed in claim 29, wherein **Tanaka et al.** teach the bulk doped medium is glass or plastic comprising a dopant of conductive material ([**0340**]).

Regarding Claim **31**, (Original) the touchpad as claimed in claim 30, wherein **Tanaka et al.** teach the conductive material is particulate or fibrous ([**0321**]).

Regarding Claim **32**, (Original) the touchpad as claimed in claim 31, wherein the particulates may be formed from metal or metal oxides with a size up to 10 microns wide is an obvious *Design Choice* to achieve the criteria discussed in claim 15.

Regarding Claim **33**, (Previously Presented) the touchpad as claimed in claim 31, wherein the fibrous material may be formed from nanotubes or carbon fibers with a length up to 10 millimeters is an obvious *Design Choice* to achieve the criteria discussed in claim 15.

Regarding Claim **34**, (Original) the touchpad as claimed in claim 28, wherein **Tanaka et al.** teach the plurality of conductors are substantially contained within the single conductive support and sensing layer ([**0318**]).

Regarding Claim **35**, (Previously Presented) the touchpad as claimed in claim 1, wherein the plurality of conductors are each electrically insulated (i.e. *an insulating sheet 8*; [**0054**], Fig. **1**).

Regarding Claim **36**, (Original) the touchpad as claimed in claim 35, wherein **Tanaka et al.** teach each conductor is coated with an electrically insulating sheath ([**0006**]).

Regarding Claim **37**, (Original) the touchpad as claimed in claim 28, wherein the conductive support and sensing layer has a textured surface in the form of surface distortions for the redirection of a point of touch which is an obvious *Design Choice*.

Regarding Claim **41**, (Previously Presented) **Yoshikawa et al.** and **Takala et al.** teach the touchpad as claimed in claim 1.

However, **Yoshikawa et al.** and **Takala et al.** do not teach the conducting medium is Indium Tin Oxide (ITO) or Antimony Tin Oxide (ATO).

In the same field of endeavor, **Tanaka et al.** teach the conducting medium is Indium Tin Oxide (ITO) or Antimony Tin Oxide (ATO) (Col. **30**, [**0340**]).

It would have been obvious to a person having ordinary skill in the art at the time the invention was made to combine **Yoshikawa et al.** and **Takala et al et al.** teaching of touchpad structures with **Tanaka et al.** teaching of the conducting medium is Indium Tin Oxide (ITO) or Antimony Tin Oxide (ATO) *in order to benefit of* reducing cost by utilizing conventional products by having a touchpad structures wherein the conducting medium is Indium Tin Oxide (ITO) or Antimony Tin Oxide (ATO).

4. Claims **42** and **44** are rejected under 35 U.S.C. 103(a) as being unpatentable over **Yoshikawa et al.** in view of **Takala et al.** and further in view of **Lin et al. (US Patent No. 6954868, hereinafter Lin et al.).**

Regarding Claim **42**, (Previously Presented) **Yoshikawa et al.** and **Takala et al.** teach a touchpad system including a touchpad as claimed in claim 1.

However, **Yoshikawa et al.** and **Takala et al.** do not teach a sensing circuit comprising a touch detector circuit and wake up circuit, the sensing circuit periodically sleeping and waking to measure the state of the touchpad, wherein in response to a touch, the sensing circuit wakes up, if sleeping, and scans the surface to determine the touch position.

In the same field of endeavor, **Lin et al.** teach a sensing circuit comprising a touch detector circuit and wake up circuit, the sensing circuit periodically sleeping and waking to measure the state of the touchpad, wherein in response to a touch, the sensing circuit wakes up, if sleeping, and scans the surface to determine the touch position (Col. **8**, Ln. **1**-**28**, Fig. **4**).

It would have been obvious to a person having ordinary skill in the art at the time the invention was made to combine **Yoshikawa et al.** and **Takala et al et al.** teaching of touchpad structures with **Lin et al.** teaching of a sensing circuit comprising a touch detector circuit and wake up circuit, the sensing circuit periodically sleeping and waking to measure the state of the touchpad, wherein in response to a touch, the sensing circuit wakes up, if sleeping, and scans the surface to determine the touch position *in order to benefit of* reducing the power consumption utilizing sleep and wake up states by having a touchpad structures wherein a sensing circuit comprising a touch detector circuit and wake up circuit, the sensing circuit periodically sleeping and waking to measure the state of the touchpad, wherein in response to a touch, the sensing circuit wakes up, if sleeping, and scans the surface to determine the touch position.

Regarding Claim **44**, (Previously Presented) the touchpad system as claimed in claim 42, wherein the power consumption of the sensing circuit is less than about 10 microamps when sleeping is an obvious Design Choice because it is dependent on the complexity of the circuit design, the area of the touchpad, the number of sensors, and the frequency of monitoring a touch.

5. Claim **43** is rejected under 35 U.S.C. 103(a) as being unpatentable over **Yoshikawa et al.** in view of **Takala et al.** in view of **Lin et al.** and further in view of **Files et al. (US Patent No. 5657053, hereinafter Files et al.).**

Regarding Claim **43**, (Original) **Yoshikawa et al., Takala et al.**, and **Lin et al.** teach the touchpad system as claimed in claim 42.

However, **Yoshikawa et al.**, **Takala et al.**, and **Lin et al.** do not teach the touch is detected in less than about 3 microseconds.

In the same field of endeavor, **Files et al.** teach the touch is detected in less than about 3 microseconds.

It would have been obvious to a person having ordinary skill in the art at the time the invention was made to combine **Yoshikawa et al., Takala et al.**, and **Lin et al.** teaching of touchpad structures, detection circuit for sleeping and awaking modes with **Files et al.** teaching of the touch is detected in less than about 3 microseconds in order to benefit of quickly responding and deactivating when touch being detected by having a touchpad structures, detection circuit for sleeping and awaking modes, and the touch is detected in less than about 3 microseconds.

Response to Amendment/Arguments/Remarks

6. Claims **2** - **3** are cancelled.

7. Applicant's arguments filed 07/22/2009 have been fully considered but they are ***not*** persuasive.

First of all, applicant argues that **Yoshikawa et al.'s** "…transparent hard coating agent is made of an insulating material (see paragraph 0052). Therefore, it cannot concentrate electric field between the conductors…". However, the Examiner respectfully disagrees because nowhere in **Yoshikawa et al.'s [0052]** discloses that the transparent hard coating agent is made of an insulating material. Furthermore, the transparent hard coating acts as a protection layer, it would *undoubtedly* and *undisputedly* allow the modification in capacitance of insulating/dielectric material of layers 3 and 8 producing voltage/electric field between the conductors 6 and 7 ([**0068**], [**0069**], FIG. **1**).

Secondly, applicant argues that **Yoshikawa et al.'s** piezoelectric substrate can not modify the capacitive environment. However, the Examiner respectfully disagrees because, piezoelectric substrate, as its name implied that would induce voltage causing vibration that modify the capacitive environment (i.e. insulating/dielectric material of layers 3 and 8) so that operator can feel the vibration via panel 3 and stylus 9 ([**0063**]). Furthermore, the primary modification of the capacitive environment would have been *undoubtedly* and *undisputedly* induced by a force/pressure from operator via stylus 9 ([**0051**], [**0056**], [**0068**]).

Thirdly, applicant argues that the references are not combinable. However, the Examiner respectfully disagrees because **Yoshikawa et al**. teaching of a capacitive touch panel and **Takala et al.** teaching of an electric field induced key pad, both of which are in the *identical* classification.

Fourth, applicant argues that "...a touch resulting in a *change in electrical connectivity*; this is *not the same as the electrically conductive* medium...". However, the Examiner respectfully disagrees because a *change in electrical connectivity* is **synonymous** to *electrically conductive*.

Finally, in response to applicant's arguments against the references individually, one cannot show nonobviousness by attacking references individually where the rejections are based on combinations of references. See *In re Keller*, 642 F.2d 413, 208 USPQ 871 (CCPA 1981); *In re Merck & Co.,* 800 F.2d 1091, 231 USPQ 375 (Fed. Cir. 1986).

Conclusion

The prior art(s) made of record and not relied upon is/are considered pertinent to applicant's disclosure: Yokoyama, Kiyohiro et al. (US 2002/0101409 A1)

A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within TWO MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the

shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the date of this final action.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to VINH T. LAM whose telephone number is (571)270-3704. The examiner can normally be reached on M-F (7:00-4:30) EST.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Amare Mengistu can be reached on (571) 272-7674. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see http://pair-direct.uspto.gov. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

/Vinh T Lam/
Examiner, Art Unit 262

/Amare Mengistu/
Supervisory Patent Examiner, Art Unit 2629